



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,310	11/18/2003	Abdul Malik	USF-236XT	7300
23557	7590	04/12/2007	EXAMINER	
SALIWANCHIK LLOYD & SALIWANCHIK A PROFESSIONAL ASSOCIATION PO BOX 142950 GAINESVILLE, FL 32614-2950			THERKORN, ERNEST G	
		ART UNIT	PAPER NUMBER	
		1723		
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	04/12/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/716,310	MALIK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ernest G. Therkorn	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 March 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11, 18-25 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) 5, 11, 22 and 23 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4, 6-10, 18-21, 24, 25, and 28-34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____.

Claims 30-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support for "the root of said dendrimer moiety" can be found. The reference on page 32, line 2 of paragraph 167 in the specification to root is to the root of dendritic reagents and not to the dendrimer moiety per se. As such, the claims are considered to be drawn to new matter.

Claims 30-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what the metes and bounds of "root" are. The remarks appear to urge that "root" expresses a particular orientation. However, a reasonable interpretation of "root" would be any anchor point of the dendrimer. As such, the term "root" renders the claims indefinite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-10, 18-21, 28, and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741). PTO 03-679 translation of Neumann (DE 19,621,741) will

serve as a translation of Neumann (DE 19,621,741). At best, the claims differ from Malik (WO 00/11463) in reciting use of a dendrimer. Kim (U.S. Patent Pub. No. 2002/0020669) (paragraphs 9-10) discloses that dendrimers bonded on supports are economically feasible, versatile, and useable in chromatography. PTO 03-679 translation of Neumann (DE 19,621,741) on page 2, lines 3-10 discloses that use of dendrimers increases the number of functional groups thereby improving separation. It would have been obvious to use a dendrimer in Malik (WO 00/11463) because Kim (U.S. Patent Pub. No. 2002/0020669) (paragraphs 9-10) discloses that dendrimers bonded on supports are economically feasible, versatile, and useable in chromatography. It would have been obvious to use a dendrimer in Malik (WO 00/11463) because Neumann (DE 19,621,741), as evidenced by PTO 03-679 translation of Neumann (DE 19,621,741) on page 2, lines 3-10, discloses that use of dendrimers increases the number of functional groups thereby improving separation.

Claims 6, 7, 24, 25, and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) as applied to claims 1-4, 8-10, 18-21, 28, and 29-34 above, and further in view of Newkome (U.S. Patent No. 5,703,271). At best, the claims differ from Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) in reciting use of isocyanate. Newkome (U.S. Patent No. 5,703,271) (column 7, lines 11-46) discloses isocyanate dendrimers have the flexibility of reacting

with various chemical surfaces including siloxane and can be used in "column chromatography or the like for the selective removal of agents from the material flowing through the column." It would have been obvious to use isocyanate in Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) because Newkome (U.S. Patent No. 5,703,271) (column 7, lines 11-46) discloses isocyanate dendrimers have the flexibility of reacting with various chemical surfaces including siloxane and can be used in "column chromatography or the like for the selective removal of agents from the material flowing through the column."

The remarks urge that claims 7 and 25 should have been rejected in the previous office action. As evidenced by the examiner specifically referring to Newkome (U.S. Patent No. 5,703,271)'s column 7, lines 11-46 isocyanates, which are the specific isocyanates of claims 7 and 25, it is clear that the omission was an obvious inadvertent typographical error. This is particularly true where paragraph 14 of Kim (U.S. Patent Pub. No. 2002/0020669) discloses isocyanates per se.

The remarks urge that Kim (U.S. Patent Pub. No. 2002/0020669)'s point of attachment is limited to the crown of his dendrimer. However, the word "crown" does not appear in Kim (U.S. Patent Pub. No. 2002/0020669).

The remarks urge patentability based upon the orientation of the dendrimer. However, the word "root" is not considered to be specific to any particular orientation. The "root" would appear to be any point of attachment of the dendrimer to the sol gel.

In any event, Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) show the proper orientation in Figures 1 and 2.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

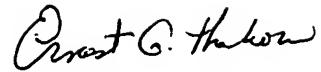
Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/716,310  
Art Unit: 1723

Page 6

Business Center (EBC) at 866-217-9197 (toll-free).



**Ernest G. Therkorn**  
**Primary Examiner**  
**Art Unit 1723**

EGT  
April 10, 2007